Beede Waste Oil
11.09
SDMS # 236968

WASTE CONVERSION EXPLANATION

BEEDE WASTE OIL SUPERFUND SITE

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QUANTIFYING HAZARDOUS SUBSTANCE VOLUMES IN LIQUID AND SOLID FORM

The majority of hazardous substances disposed of at the Beede Site were liquid wastes measured, and referenced in waste transaction documents, mainly in gallons. Other hazardous substances consisted of contaminated solids (mostly soil). These solids were measured in pounds, cubic yards, or tons. Less than 5% of the parties linked to the Site contributed hazardous substances in solid form. However, the overall volume of solids disposed of is significant and the wastes themselves are an important factor contributing to contamination at the Site. As a result, the hazardous solids at the Site have been carefully considered by EPA, along with liquid wastes, in analyzing the general hazardous substances profile at Beede.

COMPARING WASTE VOLUMES BETWEEN AND AMONG PARTIES

In order to compare parties contributing hazardous substances in solid form to parties contributing liquids, EPA must convert each solids volume to its liquid equivalent. Once each party's waste contribution is expressed in terms of a common volumetric unit (in this case, gallons), the parties then can be ranked according to their relative volumetric shares. In this way, each party's respective waste contribution can be compared to the contribution of any other party.

METHOD OF CONVERSION

In cases requiring waste volume conversions, EPA uses only well-established conversion factors. By using standard, verifiable factors that arise out of national enforcement policy and precedent (refer to the EPA *Guidance* below), EPA ensures a reliable and consistent approach. Since every case is different, the standard conversion factors may be adjusted, based on case-specific considerations. At Beede, EPA has adjusted the standard conversions, based on Site-specific facts. For example, standard conversion factors are based on the specific gravity of water which is 1. (Specific gravity refers to the ratio of the density of one substance to the density of water.) At Beede, since the average density of the oil wastes present in floating plumes found at the Site is 0.87 grams per milliliter, the standard conversion factors are adjusted using a specific gravity of 0.87. By way of illustration, to convert 100 cubic yards of contaminated soil volume to liquid gallons, the following formula applies: *100 cubic yards x 175.75 gallons/cubic yard = 17,575.6 gallons.*

SOME FACTORS USED FOR THE BEEDE SITE

1 drum = 55 gals.	1 pound = 0.109 gals.
1 yard^3 = 175.756 gals.	1 ton = 217.5 gals.

Specific Gravity Applied (Oil Wastes, Averaged) = 0.87

OTHER CONSIDERATIONS

The Beede Site is contaminated with numerous hazardous substances including polychlorinated biphenols (PCBs), petroleum hydrocarbons (PHCs), and volatile organic compounds (VOCs), among others. The nature and type of hazardous substances found in various media throughout the Site suggest multiple sources, including liquid releases and solids leaching. Accordingly, no further adjustments appear warranted based on additional considerations (e.g., mobility, toxicity, etc.) and EPA finds the above-referenced conversion methodology to be appropriate and a fair and objective means of comparing parties' respective waste contributions.

ADDITIONAL INFORMATION

To conduct the conversion analysis at Beede, EPA relied on the memorandum entitled *Guidance on Preparing and Releasing Waste-In Lists and Volumetric Rankings to PRPs Under CERCLA* (OSWER Dir. 9835.16, dated February 22, 1991). This and other relevant EPA policy and guidance documents are available through the EPA Headquarters Website at "www.epa.gov/oeca/osre/osredoc.html."